



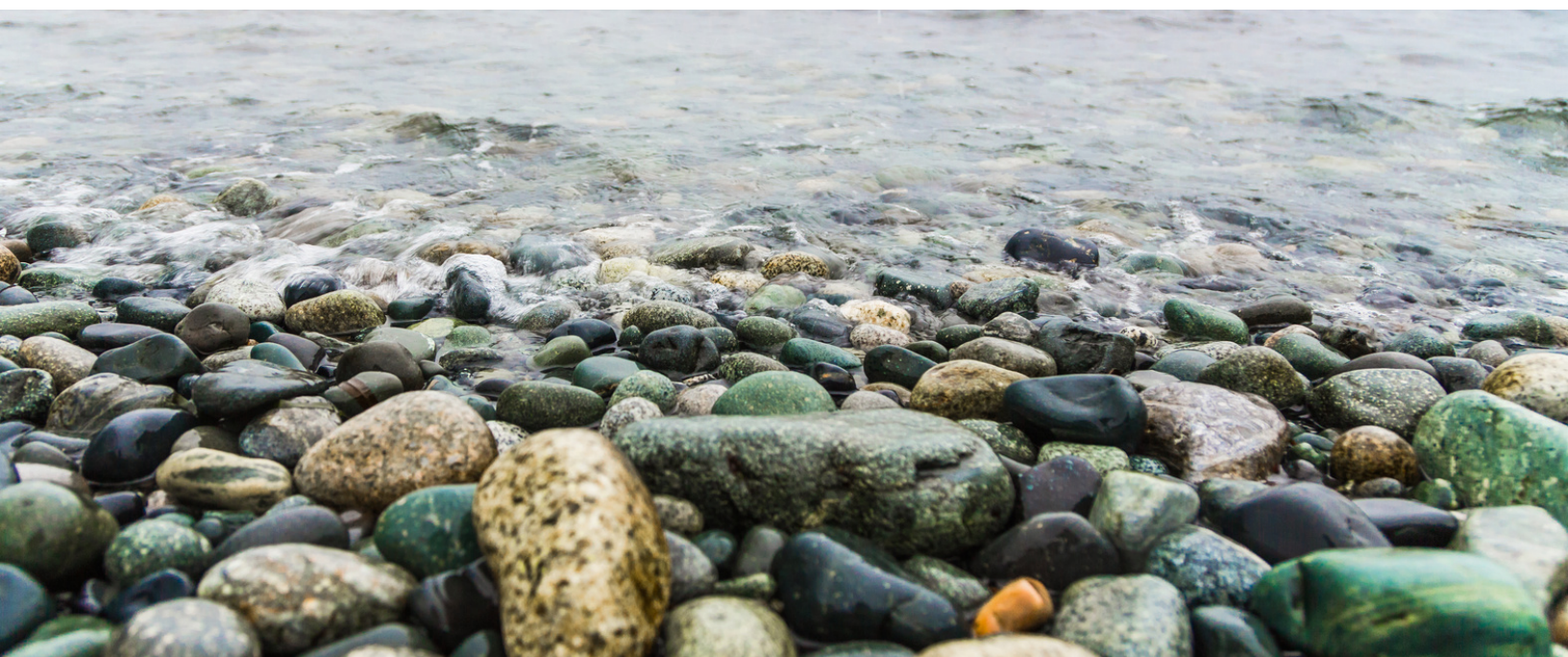
Waste Management & Recycling

Guide for **Developers**



Territorial Acknowledgement

The Capital Regional District (CRD) conducts its business within the Territories of many First Nations, including but not limited to BOKÉĆEN (Pauquachin), MÁLEXEŁ (Malahat), paaʔčiidʔatx (Pacheedaht), Spune'luxutth (Penelekut), Sc'ianew (Beecher Bay), Songhees, SʔÁUTW (Tsawout), T'Sou-ke, WJOŁEŁP (Tsartlip), WSIKEM (Tseycum), and xʷsepsum (Kosapsum) Nations, all of whom have a long-standing relationship with the land and waters from time immemorial that continues to this day.



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This guideline was produced in 2025 by WCS Engagement and Planning for use within the capital region.

Purpose of This Guide

This guide outlines recommendations for planning, designing, and constructing safe, efficient, and accessible waste and recycling areas. While intended for developers and design teams, it is also useful for anyone designing or retrofitting waste and recycling spaces. Thoughtful planning supports effective sorting of organics and recyclables, maximizing landfill diversion throughout a building's lifespan.

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Watch for these icons:



The **gear** highlights supporting tools



The **lightbulb** highlights best practice pointers, helpful tips, and key things to consider for success

Introduction

Managing & Minimizing Solid Waste in the Capital Region

The Capital Regional District (CRD) is responsible for developing and implementing a regional Solid Waste Management Plan (SWMP) that provides a high-level, long-term vision for managing and reducing solid waste, with actions established to meet regional targets and goals.

Successful implementation of the SWMP is a shared responsibility and will require involvement from residents, businesses, institutions, First Nations, municipalities, non-profit associations, and the local waste management industry.

The CRD reports annually on progress towards the SWMP goals. Visit our website for the latest report from your area and to track progress towards SWMP goals.

As regulations and guidance relating to waste may vary by municipality, it is important to understand all applicable regulations in the community in which you are operating.

These **Waste Management & Recycling Guides** are intended to support key sectors in aligning with waste management best practices and maximize diversion of recyclable and organic materials from Hartland Landfill.

Please note that this document should be used with, not in place of, all applicable building codes, municipal standards and other relevant legislation.





General Responsibilities

There are three main responsibilities you should keep in mind at the design stage of new or retrofit property developments to ensure effective waste and recycling systems throughout the lifetime of a property.

1. Adequate Storage & Collection

Commercial and residential property developers should ensure:

- accessible spaces for the sorting and storage of organics, recyclables and garbage
- enough space for necessary containers, based on property uses and volumes
- enough space for hauler vehicle access and mobility

Ensure waste and recycling areas are conveniently located, can be easily cleaned and maintained, are well-lit, and use regionally standardized signage.

2. Maximize Diversion from Landfill

Residents and businesses have an ongoing responsibility to reduce waste, maximize diversion and comply with disposal bans. Property developers should support this through:

- installing recycling and organic containers based on current and predictable future needs
- providing space for the collection of items with extended producer responsibility (batteries, lightbulbs, paint, appliances and more)
- providing resources to support waste reduction and diversion (Waste Management Guides & Tools from this series, Tenant Move-In Toolkits)

For up-to-date information on item bans and disposal options, head to: www.crd.ca/hartland

3. Meet Waste Management Regulations

The CRD and the 13 municipalities within it have regulations that impact waste management. To ensure regulatory compliance check for:

Solid Waste & Recycling Regulations which may address:

- Requirements and collection standards for the management of recycling, organics, and garbage, from all sectors
- Requirements that recyclable materials, including organics, be separated from garbage
- Noise restrictions and allowable collection hours, materials accepted, weight limitation, correct packaging for collection, etc.

Tipping Fee Bylaws & Disposal Bans which may address:

- Details of material-specific tipping fees charged at depots or embedded in hauling rates
- Banned materials that local disposal facilities do not accept, either because there are already disposal programs set up for these items or because they are hazardous.

BC Public Health Act which requires a person not to willingly cause a health hazard or act in a manner the person knows, or ought to know, will cause a health hazard. Local public health bylaws often include requirements to ensure waste storage does not provide shelter, refuge or food for rodents.

BC Fire Code which requires that spaces and infrastructure provided for the storage of combustible waste materials conform to the British Columbia Building Code. Local fire bylaws may place additional requirements, for example, mandating that garbage and recycling containers be made of non-combustible material, containers be stored at a distance from any combustible material and from unprotected areas (e.g., without sprinkler) around or inside any structure, and/or that self-closing lids are required for all containers.

BC Building Code requires that rooms for temporary storage of combustible refuse such as garbage or waste paper are separated from the remainder of the building by a fire separation with a fire-resistance rating of not less than one hour, and be sprinklered.

Drainage, Dyke or Sanitary Sewer System Regulations which may address the management of fats, oils and grease, especially from food sector businesses, to ensure no oil or grease is discharged into a sanitary sewer or drainage systems.

Traffic Regulations which may require that recycling and garbage containers are not placed on roadways.

Unsightly Premises / Waste Area Screening and Siting Regulations which may address property aesthetics, including preventing garbage from accumulating and removing any accumulations.

Wildlife Conflict Avoidance Regulations which may address managing wildlife attractants, ensuring material streams are securely stored, and the fines applicable upon failing to secure attractants.

Waste management related guidelines and bylaws are frequently updated and reviewed in communities across the capital region. Check municipal and CRD regulations online for the up-to-date information.

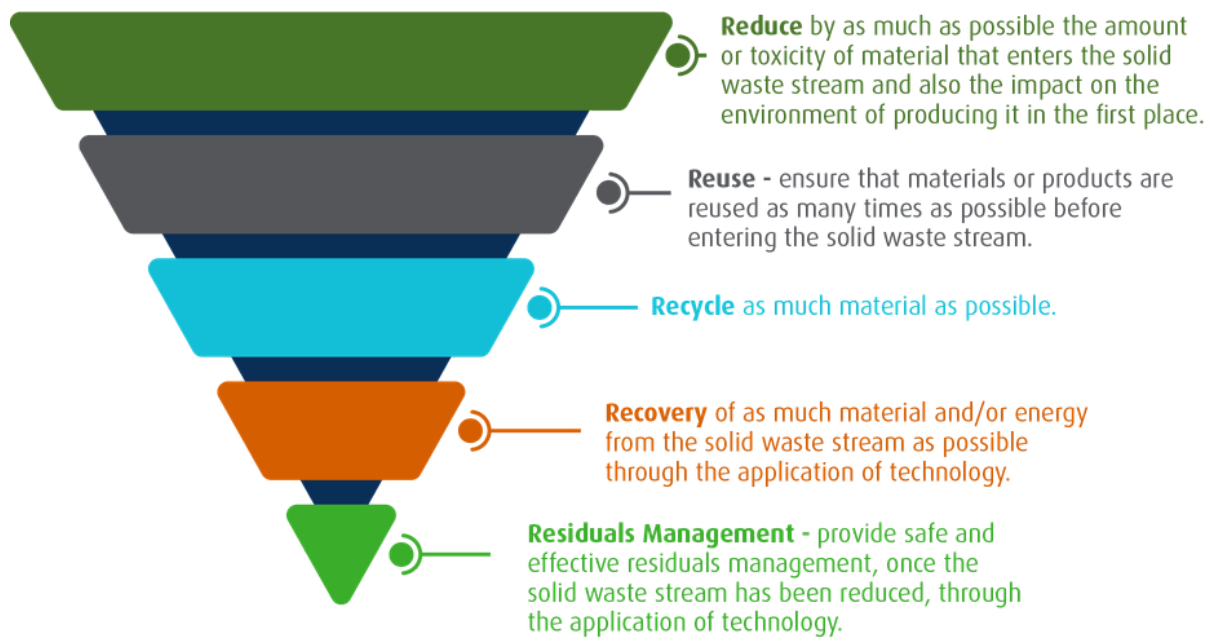


The 5R's Pollution Prevention Hierarchy

In BC, regional districts develop Solid Waste Management Plans (SWMP) to manage solid waste in accordance with the 5R Pollution Prevention Hierarchy and the provincial Environmental Management Act. SWMPs help to:

- Guide policies, actions, and investments toward the top of the pollution prevention hierarchy
- Support systems and product design which focus on reducing waste
- Provide a tool for evaluation and planning when considering new solutions

This guide will set up your property to maximize waste diversion and commit to ongoing waste reduction.



Benefits of Smart Waste Design

For property developers, accounting for sorting and collection needs early in design can streamline approvals and ensure regulations are met. For end users, effective design enables waste and recycling areas to be operated in ways that can save costs, ensure regulation readiness, and support effective long-term diversion of organics and recycling from garbage.



Other useful **Waste Management & Recycling** resources:

- Guide for **Construction & Demolition Businesses**
- Guide for **Property Managers**
- Guide for **Businesses**
- Tool on **Designing for Disassembly**

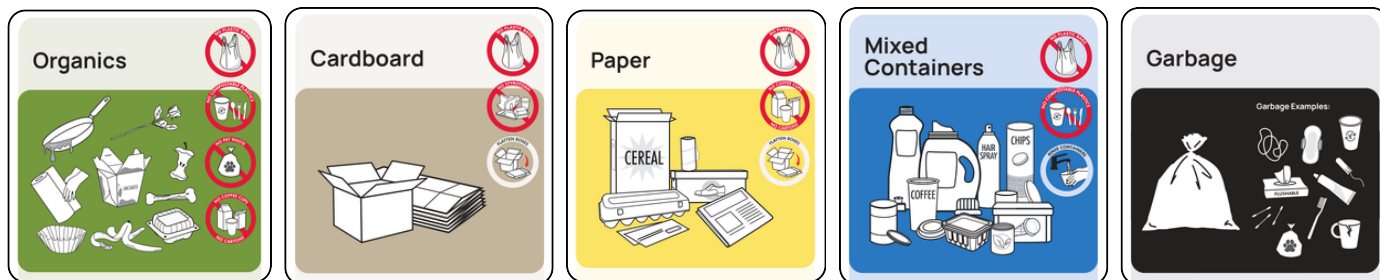
Available at: crd.ca/businesswaste



When designing a new property or major retrofit it is vital to plan appropriate areas for recycling and waste management. This guide outline steps and key considerations for industrial, commercial, institutional and multi-family residential properties.

Step 1: Estimate Material Types & Volumes

Identify the waste streams that your property is likely to produce. Occupants should have access to:



To future-proof your property add streams for flexible plastic, glass, beverage containers, foam, electronics, batteries, lightbulbs or other items banned from the landfill.

Typical Weekly Waste and Recycling Volumes

Waste stream types and volumes generated by a property will depend on user types and population density. The table below provides estimates of weekly waste and recycling volumes generated by different building user types. These estimates can be useful to guide planning when no existing data is available.

Multi-Family Building

Waste Categories	Estimated weekly volume generated per unit (L/unit/week)
Garbage	53
Mixed Containers	18.5
Mixed Papers (include papers & cardboard)	42.9
Mixed Papers (include papers, exclude cardboard)	15
Cardboard	27.5
Organics (i.e. food scraps)	14
Glass	2.1

Hospitality Building

Waste Categories	Estimated weekly volume generated per room (L/room/week)
Garbage	47.5
Mixed Containers	3.5
Mixed Papers	8.3
Cardboard	14.3
Organics (i.e. food scraps)	20
Glass	0.015
Tallow/Grease*	0.33

Source: City of Vancouver

In **multi-family and hospitality buildings**, unit floor areas can vary a lot so waste is estimated for each unit. Estimates are based on two residents per unit.
(L/unit/week)

For **commercial buildings** estimates use volume generated per floor area:
(L/m²/week)

Commercial Buildings

Waste Categories	Estimated weekly volume generated per floor area (L/m ² /week)			
	Office Building	Retail Building	Restaurant & Food Retail	Large Venues
Garbage	1	2.25	1.65	3.1
Mixed Containers	0.375	0.65	2	1.7
Mixed Papers	0.65	1.5	2.05	1.5
Cardboard	0.65	2.3	3.75	2
Organics (i.e. food scraps)	0.57	-	2	1.86
Glass	0.003	0.003	0.015	0.004
Tallow/Grease*	-	-	0.35	-

Source: City of Vancouver

Plan for Fats, Oils & Grease

Properties that have commercial food services must install and maintain grease interceptors, ensuring no grease or oil is poured into sinks or floor drains. Commercial property developments should plan for interceptors and for additional containers and systems to collect and safely dispose of oil, grease and other liquid fats.

Standard Oil & Grease Container Options:

Drum



Container



Description	- Sits stationary on ground - Specially-designed trucks to collect	- Containers may have wheels to move around - Specially-designed trucks to collect - Requires room for collection
Typical Size	170 litres (45 gallon)	Approx. 2.2 yd ³ - 0.9 m (H) × 1.7 m (W) × 0.84 m (D) (depth tapering to 0.56 m). Approx. 2.75 yd ³ - 0.9 m (H) × 1.7 m (W) × 1.09 m (D) (depth tapering to 0.81 m).
Full Weight	180 kg	545 - 910 kg

Source: City of Richmond



Step 2: Connect with Waste Haulers

Recycling, organics, and waste services for commercial and multi-family properties normally involves contracting private waste haulers.

Connecting with a waste hauler early in the design stage will ensure you can:

- Understand waste hauler access needs
- Plan for different collection vehicles
- Align with industry best practice

Waste haulers can often review or advise on waste and recycling spaces at the property's design stage.

A list of waste and recycling haulers is maintained by the CRD and is available online at:
crd.ca/businesswaste



Contracting Waste Haulers

Step 3: Choose Container Types

Developers must ensure there is enough space for the collection and storage of organics, recycling, and garbage containers. Use the **Planning Waste & Recycling Areas** tool to estimate required container volumes and compare the pros and cons of different container options. Different containers can be combined based on the number and types of users.

Container options are normally carts, front-end bins and compactors.

Carts



Compactor



Front-end bin



Image Source: District of Saanich



Planning Waste & Recycling Areas

Step 4: Calculate Required Storage Space

To estimate the space needed in your waste and recycling area, use the formula and table below, as well as the number of necessary containers.



x



x



Number of Containers

Identified through previous steps

Footprint of Each Container

Based on individual container and cart dimensions

Manoeuvre Factor

Space required to move containers around inside the waste and recycling room

Container Measurement & Storage Space Required

Container Type	Height	Length	Width	Footprint	Manoeuvre Factor	Storage Area Required for 1 Container
3 yd ³ Front-end top loading	1.22 m (4')	1.07 m (3.5')	1.83 m (6.0')	1.96 m ²	2.25	4.41 m ²
4 yd ³ Front-end top loading	1.22 m (4')	1.37 m (4.5')	1.83 m (6.0')	2.51 m ²	2.25	5.64 m ²
6 yd ³ Front-end top loading	1.52 m (5')	1.68 m (5.5')	1.83 m (6.0')	3.07 m ²	2.25	6.91 m ²
46.5 L Cart	0.69 m (2.25')	0.30 m (1')	0.28 m (0.92')	0.084 m ²	N/A	N/A
80 L Cart	0.88 m (2.88')	0.51 m (1.67')	0.41 m (1.35')	0.21 m ²	2.25	0.47 m ²
120 L Cart	0.97 m (3.18')	0.57 m (1.87')	0.58 m (1.90')	0.33 m ²	2.25	0.74 m ²
240 L Cart	1.10 m (3.60')	0.70 m (2.30')	0.66 m (2.16')	0.46 m ²	2.25	1.04 m ²
360 L Cart	1.17 m (3.84')	0.87 m (2.85')	0.70 m (2.30')	0.61 m ²	2.25	1.37 m ²
Blue Box	0.37 m (1.22')	0.38 m (1.25')	0.46 m (1.51')	0.17 m ²	N/A	N/A
Glass Recycling Bin	0.36 m (1.17')	0.36 m (1.18')	0.27 m (0.89')	0.10 m ²	N/A	N/A
Mixed Paper Recycling Bag	0.66 m (2.17')	N/A	0.46 m (1.51')	N/A	N/A	N/A
FRONT-END TOP LOADING CONTAINERS - ADDITIONAL DIMENSIONS The dimensions noted above reflect the internal measurement of the container. Please allow for an additional 20.32 cm (8") in width for the side brackets on the container.				COMPACTORS Garbage compactors range in size from 4 yd ³ to yd ³ and connect to various sizes of front-end bins. Models have different space and location requirements. Consult a private service provider for details.		

Source: City of Richmond

Step 5:

Design Your Waste & Recycling Area

Waste and recycling areas should be large enough to store all recycling, organics and garbage generated between collection days, while permitting users to access the containers and the movement of the containers on collection day.

Designated waste and recycling areas must also meet requirements for fire safety, flood construction level, wildlife-attractant avoidance, and all other building requirements.

Waste and recycling areas should integrate the following design considerations:

Element	Design Considerations
Location	• Located where waste haulers may safely access without backing up across sidewalks, around corners or onto roads • Located in area that is easily accessed by users • Co-located with community services such as mailboxes or events board • Containers should be grouped by material type to reduce cross-contamination Waste and recycling areas should NOT be: • In any required driveways, parking aisles, or parking spaces • In any location that may block or impede fire exits, roads, transit lanes, bike paths or sidewalks • Likely to be blocked by loading vehicles or other temporary blockages • Beside high-traffic recreational areas (e.g., playgrounds, dog parks)
Security	• Secured to prevent pest and wildlife access • Consider locked doors to protect from unlawful entry and illegal dumping • Avoid key or FOB locks. Code lock mechanisms provide easier access to the service provider
Spatial Clearance	• Configured to allow each container to be individually accessed and serviced without having to take out other containers • Containers should be stored so they don't block doors • Allow at least 2.5m in height clearance to be able to open container lids • Ensure adequate height and space for collection vehicle access

Element	Design Considerations
Doors	• Service doors should have a 2.5m (8') minimum opening and a door stop for when containers are removed for emptying • Personnel doors should open outwards, have a self-closing device, and have a lever opening on the interior • Ensure accessibility for users with mobility needs • All doors should close tightly to prevent pests
Flooring	• A hard surface (concrete, if using a compactor) that will bear the weight of collection vehicles (can be up to 30 tonnes)
Ventilation	• Adequate ventilation to the exterior of the building, in compliance with the BC Building Code • Be aware of air intakes for other buildings near the waste and recycling area
Cleanliness & Drainage	• Provide at least one hose connection for cleaning • Ensure there is a drain to sanitary sewer • Oil separator should be installed for food service and restaurants
Electricity	• Ensure waste and recycling areas are well lit for users • Provide power for equipment inside the area. Power requirements must be verified with collection providers
Signage	• Install clear signage on and around containers to ensure that materials go in the appropriate container • Consider painting walls behind containers the colour of the recycling stream to help keep the room organized and container locations consistent



Design Considerations by Property Type

Ground-level Waste Sheds

When designing ground-level waste areas ask:

- Is there space for hauler vehicles to operate clear of buildings and emergency or delivery routes?
- Could exhaust from the truck affect nearby residential units?

Underground Rooms

Waste hauler vehicles need specific height clearance. Otherwise containers will need to be moved manually or with a smaller vehicle, which may create operational and financial challenges such as:

- Strata or building management may need to coordinate regular container relocation
- Overall service costs may increase due to extra container handling or equipment needs

To avoid the above potential challenges, plan for hauler vehicle height clearance needs.

Multi-Use Properties

Best practice for multi-use properties is to store and haul residential and business waste separately. Separate waste areas make it easier to:

- **Track costs, fines, and savings** related to overflow charges, contamination fines, or savings enabled by waste reduction or diversion
- **Reduce contamination** because monitoring by user type ensures feedback can be targeted at each user group.

Townhouse Complexes, Duplexes & Triplexes

- If recycling depots are far away, provide extra containers on-site for better waste sorting.
- Smaller, high-density properties need to be designed to make sure waste collection doesn't block roads, bike paths, or sidewalks

Step 6:

Design for Collection Vehicle Needs

Well-designed access routes and loading areas are essential for safe, efficient waste and recycling collection. Collection vehicles are large, heavy, and require adequate space to move without creating hazards for pedestrians, cyclists, or other vehicles. By considering vehicle dimensions and turning requirements early in the design process, developers can help reduce safety risks, prevent property damage, and support reliable collection service.

Designing Access Routes

Waste and recycling areas should be accessible for a mix of truck sizes and designs. These design elements help make sure that collection vehicles can enter your site, collect garbage and recycling, and exit without having to reverse onto a public road.

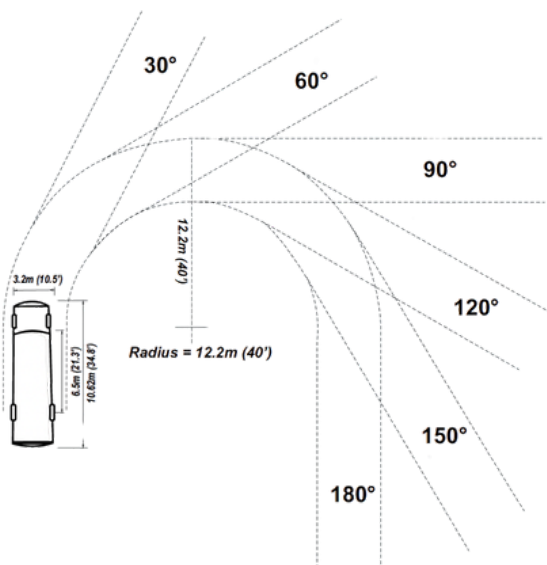
Element	Design Guidelines
Entry & Exit	Allow forward entry and exit, or provide a safe turnabout for a three-point turn ($\geq$ one truck length)
	Vehicles should not reverse onto public roads to minimize collisions with pedestrians, cyclists, and other vehicles
Driveway Width	Minimum 6.0 m at site entry and exit
Access Route	Minimum 4.5 m width throughout access route
Slope	Not to exceed 6% (recommended 2% in collection/loading areas)
Overhead Clearance	Minimum 4.5 m along entire access route
Turning Radius	Minimum 12.5 m, with no encroaching structures (e.g., balconies or overhangs)
Floor	Design for collection vehicle weights up to 30 tonnes
Signage	Install clearance signs where applicable

Designing Loading Areas

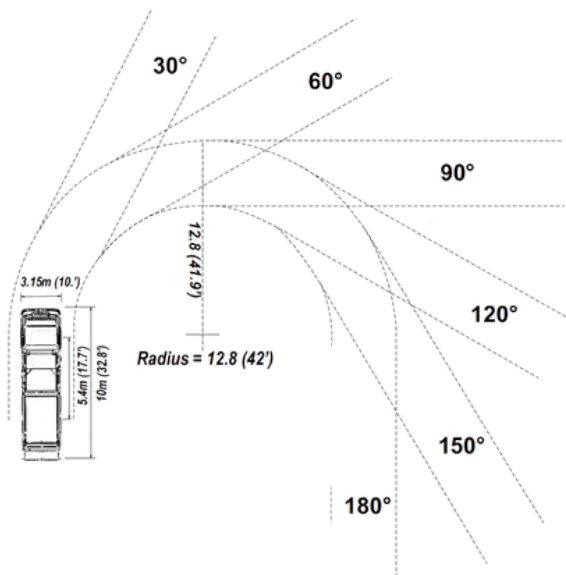
Loading and collection areas must be designed for different truck sizes and configurations. These areas should provide enough vertical clearance and space to support the turning radius of collection vehicles.

Vehicle Collection Type	Length (m)	Width (m)	Height (m)
Side-loading Carts	13	5.5	6.2
Front-end Bins	15	6	7.5

Manual Collection Vehicle Turning Radius



Front-loading Turning Radius

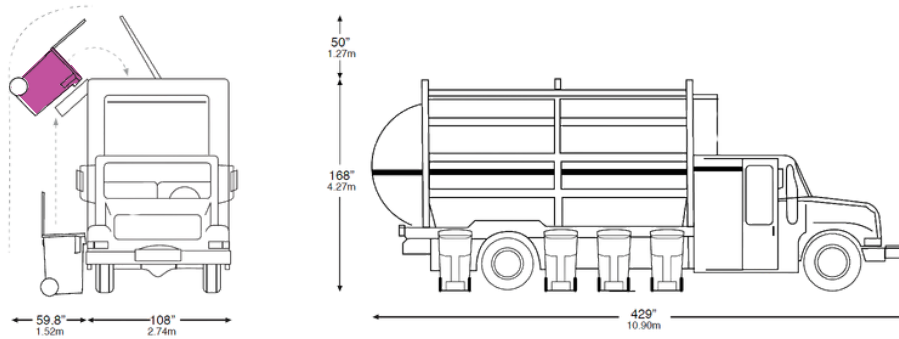


For **high-volume properties**, consult your hauler to determine if a compactor is suitable. Compactors require dedicated space and low-clearance truck access, as they are typically hauled off-site for emptying by a specialized truck and then returned.

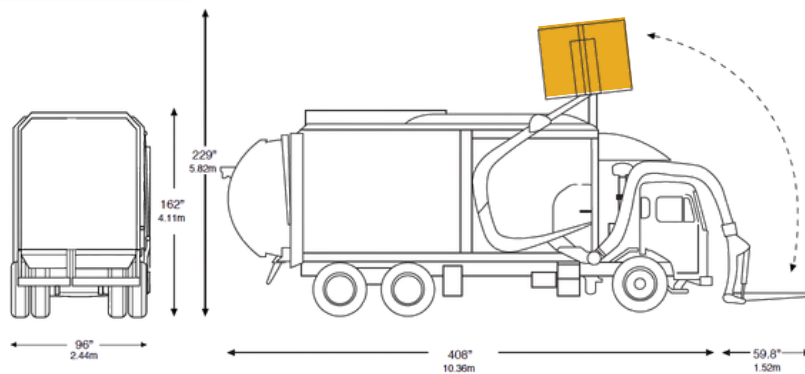
Truck Dimensions & Clearance

Use the following information as a guide to determine what dimensions are needed for common types of collection vehicles.

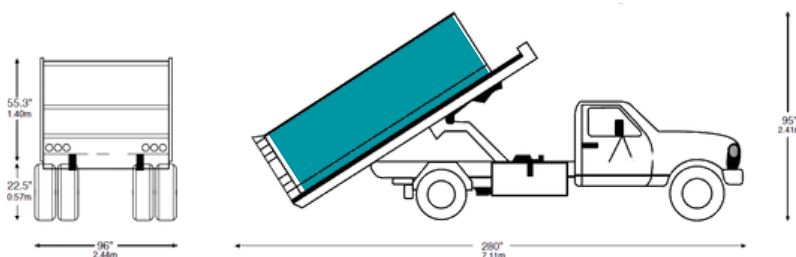
Vehicle Collection Type		Length (m)	Width (m)	Height (m)
Side Loading Carts	Truck	10.11	2.74	4.27
	Truck with Bins	11.63	4.27	5.54



Front Loading Bins	Truck	10.36	3.15	4.11
	Truck with Bins	2.36	2.44	6.9



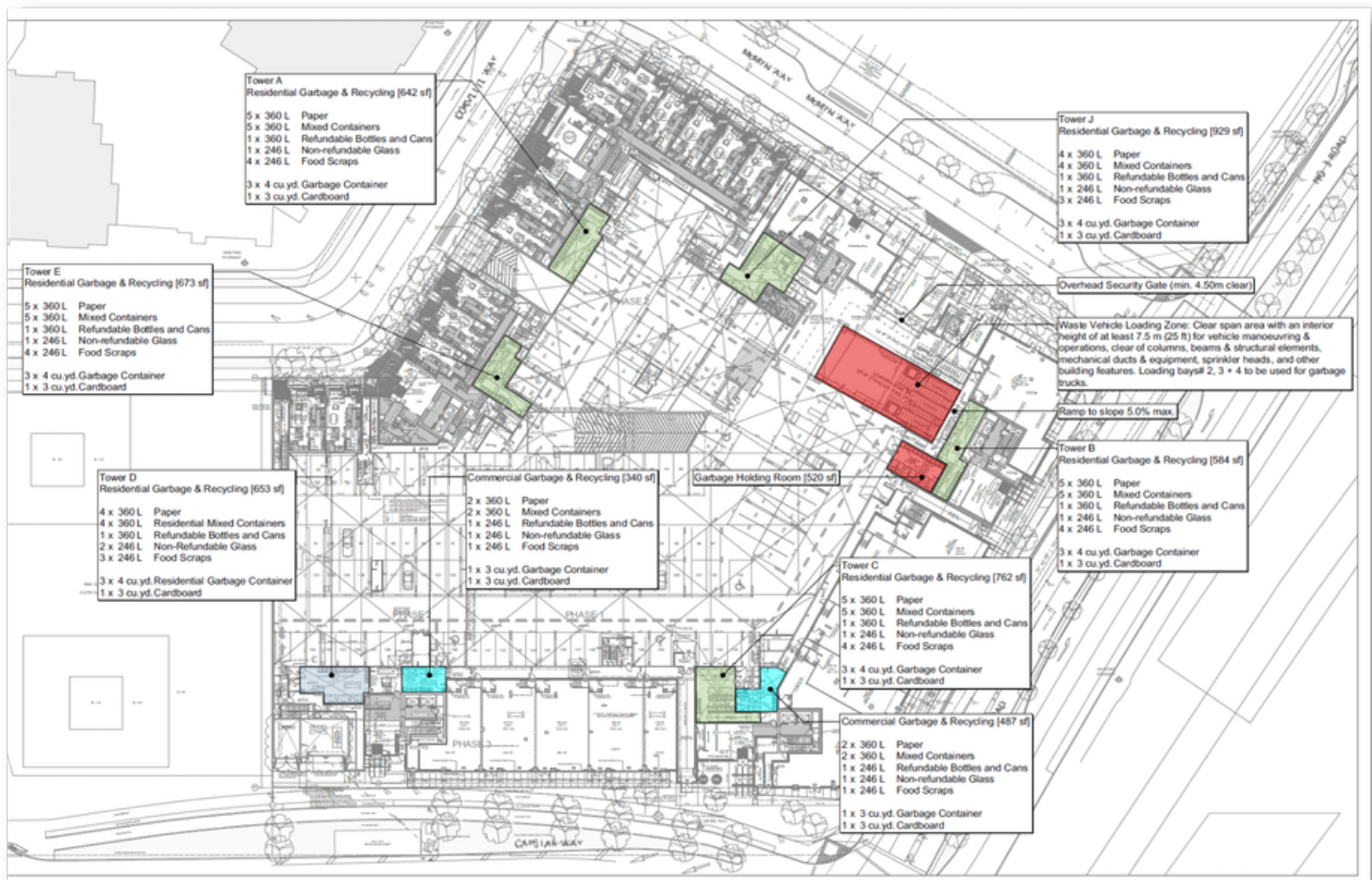
Roll-off Bin/ Compactor	Truck	10.97	2.44	3.56
	Truck with Bins	11.58	2.44	5.84



Step 7: Develop a Waste Management Overlay Plan

A waste management overlay plan brings together previous planning steps by outlining waste and recycling areas within the overall development or renovation design. It provides a clear framework to support feedback during permitting and illustrates the functional layout of waste and recycling systems, including:

- Location of doorway access to the storage areas (exterior and interior)
- Vertical cross-section of the service area drawing
- Size, capacity and function of the various types of waste and recycling areas (permanent or temporary)
- Location and dimensions (including height) of the waste and recycling pick-up areas
- Location, dimensions, door sizes, and the space needed for maneuvering and turning along the access routes to pick-up areas



Waste Overlay Example. Source: City of Richmond, Yuanheng Project Management Ltd. & W.T. Leung Architects Inc.

Waste Management & Recycling Guides have been produced for:

- ✔ **Developers**
- ✔ **Property Managers**
- ✔ **Construction & Demolition Businesses**
- ✔ **Businesses**
- ✔ **Food & Beverage Businesses**

Accompanying Tools are available to support:

- ✔ **Planning Waste & Recycling Areas**
For choosing container options and estimating waste volumes based on user types
- ✔ **Contracting Waste Haulers**
For key components and common questions in contracting.
- ✔ **Developing a Zero Waste Management Plan**
For steps to identify zero waste goals and actions.
- ✔ **Doing a Visual Waste Audit**
For methods and support for a visual waste audit.
- ✔ **Identifying Sources of Food Waste**
For sample tracker and methods for monitoring food waste.
- ✔ **Designing for Disassembly Checklist**
For construction sector considerations to future-proof design.
- ✔ **Planning for Collection Vehicle Access**
For construction sector considerations to future-proof design.

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